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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/872,401	06/01/2001	Tuan Nguyen	2001 P 09906 US	2647

7590 06/01/2004

Siemens Corporation
Intellectual Property Department
186 Wood Avenue South
Iselin, NJ 08830

EXAMINER

BRODA, SAMUEL

ART UNIT	PAPER NUMBER
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2123

DATE MAILED: 06/01/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/872,401	Applicant(s) NGUYEN ET AL.	
	Examiner Samuel Broda	Art Unit 2123	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01 June 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-25 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-25 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 01 June 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Art Unit: 2123

DETAILED ACTION

1. Claims 1-25 have been examined.

Priority

2. This Application contains a claim for the benefit of priority to U.S. Provisional Application No. 60/208,664 filed 1 June 2000 and U.S. Provisional Application No. 60/280,679 filed 30 March 2001. The provisional applications have been reviewed and priority is denied, because the provisional applications do not appear to enable the claim invention as required under 35 U.S.C. Section 112, first paragraph. See 35 U.S.C. 119(e)(1).

For example, both provisional applications contain a set of drawings that mostly appear to be 'power-point' style slides that describe the benefits of performing line assembly simulations as part of a sales presentation. Neither provisional application appears to contain the text of the simulation software templates that appears in the Specification at pages 16-80.

Specification

3. The description portion of this Application contains a computer program listing consisting of more than three hundred (300) lines. In accordance with 37 CFR 1.96(c), a computer program listing printout of more than three hundred lines must be submitted as a computer program listing appendix on compact disc conforming to the standards set forth in 37 CFR 1.96(c)(2) and must be appropriately referenced in the Specification (see 37 CFR

Art Unit: 2123

1.77(b)(4)). Accordingly, Applicants are required to cancel the computer program listing appearing in the Specification on pages 16-80, file a computer program listing appendix on compact disc in compliance with 37 CFR 1.96(c) and insert an appropriate reference to the newly added computer program listing appendix on compact disc at the beginning of the Specification.

Claim Rejections - 35 U.S.C. § 101

4. The following is a quotation of 35 U.S.C. 101:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

4.1 Method claims 1-25 are rejected for reciting a process that is not directed to the technological arts.

Regarding claim 1, this claim is directed at a method for providing consulting services to a customer in connection with the customer's electronics assembly system. To be statutory, the utility of an invention must be within the technological arts. *In re Musgrave*, 167 USPQ 280, 289-90 (CCPA, 1970). The definition of "technology" is the "application of science and engineering to the development of machines and procedures in order to enhance or improve human conditions, or at least to improve human efficiency in some respect." (Computer Dictionary 384 (Microsoft Press, 2d ed. 1994)).

Art Unit: 2123

The limitations recited in claim 1 contain no language suggesting that claim 1 is intended to be within the technological arts; please note that the method steps of claim 1 recited as part of a "computer-implemented method" would be considered as directed to the technological arts.

4.2 Independent claims 10 and 18, and dependent claims 2-9, 11-17, and 19-25 are rejected using the same analysis.

Claim Rejections - 35 U.S.C. § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless —

...

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5.1 Claims 1-9 and 18-25 are rejected under 35 U.S.C. 102(b) as being anticipated by Worhach et al, "Integration of Environmental Factors in Process Modeling for Printed Circuit Board Manufacturing, Part I: Assembly," Proceedings of the 1997 IEEE International Symposium on Electronics and the Environment, pp. 218-225 (May 1997).

5.2 Regarding claim 1, Worhach et al teaches a method for providing consulting services to a customer in connection with the customer's electronics assembly system, comprising the steps of:

Art Unit: 2123

- a. identifying a set of solutions opportunities for the customer's electronics assembly system [solutions opportunities corresponding to minimization of waste streams, energy consumption, process time and to maximization of yield; see Abstract and "II. Model Development" at pages 219-221];
- b. modeling the customer's electronics assembly system in real time with the customer present [customer present to model system using internet-based implementation; see "III. Model Implementation" at pages 221-222 and Fig. 2];
- c. defining one or more performance metrics for a proposed solution [performance metrics shown in Table VIII at page 224 and Table IX at page 225 regarding aqueous and no-clean process alternatives];
- d. prioritizing the identified solutions by running the model for each of the identified solutions [prioritizing aqueous and no-clean process alternatives by energy and waste generation; see "IV. Case Study" at pages 222-224] ;
- e. selecting a proposed solution from among the prioritized, identified solutions ['no-clean' selected based on lower waste and energy generation; see Table VIII and Figs. 3-7];
- f. quantifying the benefit of the proposed solution relative to the one or more performance metrics ['no-clean' selected based on lower waste and energy generation; see Table VIII and Figs. 3-7]; and
- g. communicating the quantified benefit to the customer [benefit displayed by web page].

Art Unit: 2123

Therefore, Worhach et al anticipates claim 1.

5.3 Regarding claims 2-3 and 5, the method of Worhach et al represents the electronics assembly system at a material flow level of abstraction (see Fig. 1), uses simulation models (see “II. Model Development” at pages 219-221), and the proposed solutions relate to the machines in the assembly system.

5.4 Regarding claim 4, the Internet-based implementation of Worhach et al inherently proposes solutions in under one-half hour.

5.5 Regarding claims 6-8, the method of Worhach et al proposes solutions including information: (1) related to the software tools used in the assembly process, and (2) related to operating parameters of machines in the system, and calculates a cost of ownership measure corresponding to energy and waste consumption. See “IV. Case Study” at pages 222-224.

5.6 Regarding claim 9, the additional method steps correspond to interactive use of the Internet-based implementation of Worhach et al.

5.7 Regarding independent claim 18 and dependent claims 19-25, these claims are anticipated by Worhach et al using the analysis of claims 1-9, with the customer session taking place during the customer’s use of the Internet-based implementation of the process models as described in “III. Model Implementation” at pages 221-222.

Art Unit: 2123

Claim Rejections - 35 U.S.C. § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6.1 Claims 10-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Worhach et al, in view of Puri, U. S. Patent 6,064,982 issued 16 May 2000 and filed 12 November 1997.

6.2 Regarding claims 10-17, as shown above Worhach et al teaches the limitations appearing in claims 10-17 directed to the identification of customer requirements and constraints, configuration selection, determination of a performance measure, and comparison of the performance measure to the constraints. Nevertheless, Worhach et al does not appear to explicitly teach the following limitation of independent claim 10:

f. if the at least one performance measure satisfies the customer constraints, offering to sell at least a subset of the electronics assembly equipment of the configuration to the customer,
wherein the offer is developed, with the benefit of the model, during the sales session.

However, Puri teaches the use of a "smart configurator" that:

Art Unit: 2123

. . . recommends a system configuration that most nearly meets a customer's needs, based upon the results of an interactive customer product selection session in which the customer progresses through a dialog that is implemented in a series of cascading style sheets.

(Abstract.)

The system and method of Puri generates an offer to sell a particular software configuration during the sales session. See Figs. 8-9 and corresponding text at column 5 line 60 through column 6 line 13. According to Puri at column 1 lines 37-41, such a system and method provides:

an intelligent sales tool that provides field personnel/customers with access to current product information while guiding them through the needs assessment and product selection/configuration process.

6.3 Regarding claims 10-17, it would have been obvious to one of ordinary skill in the art at the time of Applicants' invention to modify the interactive modeling and performance features of the electronics assembly system of Worhach et al to perform the sales function and offer generation features of Puri, because the resulting system would comprise an 'intelligent sales tool' that would permit field personnel to configure electronics assembly systems for customers.

Art Unit: 2123

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to Applicants' disclosure. Reference to Tegethoff, U. S. Patent 5,539,652 is cited as teaching a method for manufacturing test simulation in electronic circuit design.

Reference to Fad et al, U. S. Patent 5,793,632 is cited as teaching a cost estimating system using parametric estimating and providing a split of labor and material costs.

Reference to Varney, "Arm Your Salesforce with the Web," Datamation, Vol. 42 Issue 16, pp. 72-74 (October 1996), is cited as teaching the benefits of salesforce automation Web-enabled tools.

Reference to Przekwas et al, "A Virtual Prototyping Environment for Multi-Scale, Multi-Disciplinary Simulation of Electronics Packaging of MCMs," IEEE Inter-Society Conference on Thermal Phenomena in Electronic Systems, pp. 352-358 (May 1996), is cited as teaching a virtual prototyping environment used to automatically assemble a "virtual MCM."

Reference to Dance et al, "Modeling the cost of ownership of assembly and inspection," IEEE Transactions on Components, Packaging, and Manufacturing Technology--Part C, Volume 19 Issue 1, pp. 57-60 (January 1996), is cited as teaching a cost of ownership analysis that splits out the estimation of the cost of operating the inspection tool and the estimation of the cost impact of inspection on the processes being measured.

Art Unit: 2123

8. Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Samuel Broda, whose telephone number is (703) 305-1026. The Examiner can normally be reached on Mondays through Fridays from 8:00 AM – 4:30 PM.

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, Kevin Teska, can be reached at (703) 305-9704. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the group receptionist, whose telephone number is (703) 305-3900.



**SAMUEL BRODA, ESQ.
PRIMARY EXAMINER**